

WE CLAIM:

1. A process for chemically treating a metallic part comprising:
providing a process tank capable of receiving at least one part;
providing at least one part to the process tank;
providing an alkaline first solution into the process tank from a first storage tank;
removing the first solution from the process tank into a transition tank;
providing a deoxidizing second solution into the process tank from a second storage tank;
removing the second solution from the process tank into the transition tank;
providing a third coating solution having a pH of about 1.0 to about 3.0 into the process tank from a third storage tank; and
removing the third solution from the process tank into the transition tank.
2. The process of Claim 1, wherein the second solution is a deoxidizer or etchant.
3. The process of Claim 1, wherein the third solution comprises sodium dichromate.

4. The process of Claim 1, wherein the third solution comprises nitric acid.
5. The process of Claim 1, wherein the third solution has a pH of about 1.0-3.0.
6. An apparatus for chemically treating a metallic part comprising: a first storage tank capable of receiving a deoxidizing solution, a second storage tank capable of receiving an acid solution, and a third storage tank capable of receiving a coating solution having a pH of about 1.0 to about 3.0, a process tank in fluid communication with each of the first, second, and third storage tanks wherein the process tank is capable of receiving at least one part; a transition tank, wherein the transition tank is in fluid communication with the process tank, and wherein the transition tank is in fluid communication with the first, second, and third storage tanks.
7. The apparatus of Claim 6, wherein a waste removal tank is additionally in fluid communication with the transition tank.
8. A process for chemically treating a metallic part comprising:
providing a process tank capable of receiving at least one part;
providing at least one part to the process tank;
providing an alkaline first solution into the process tank from a first storage tank;
removing the first solution from the process tank into a first

transition tank;

providing a chemical polishing second solution into the process tank from a second storage tank;

removing the second solution from the process tank into a second transition tank;

providing a deoxidizing third solution into the process tank from a third storage tank;

removing the third solution from the process tank into a third transition tank;

providing an anodizing fourth solution into the process tank from a fourth storage tank;

removing the fourth solution from the process tank into a fourth transition tank;

providing an dichromate sealing fifth solution into the process tank from a fifth storage tank;

removing the fifth solution from the process tank into a fifth transition tank;

providing a coating sixth solution into the process tank from a sixth storage tank; and

removing the sixth solution from the process tank into a sixth transition tank.

9. The process of Claim 8, wherein the third solution is a deoxidizer or etchant.

10. The process of Claim 8, wherein the fifth solution comprises sodium dichromate.

11. The process of Claim 8, wherein the third solution comprises nitric acid.

12. The process of Claim 8, wherein the third solution has a pH of about 1.0-3.0.

13. The process of Claim 8, wherein the fourth solution comprises sulfuric acid.

14. An apparatus for chemically treating a part comprising: a first storage tank capable of receiving an alkaline solution; a second storage tank capable of receiving a chemical polish solution; a third storage tank capable of receiving a deoxidizing solution; a fourth storage tank capable of receiving an anodizing solution; a fifth storage tank capable of receiving a dichromate sealing solution; and a sixth storage tank capable of receiving a coating solution, wherein each of the first, second, third, fourth, fifth, and sixth storage tanks are in fluid communication with a process tank capable of receiving at least one metallic part; first, second, third, fourth, fifth, and sixth transition tanks, wherein the first, second, third, fourth, fifth, and sixth transition tanks are in fluid communication with the process tank, and wherein the first, second, third,

fourth, fifth, and sixth transition tanks are in fluid communication with the first, second, third, fourth, fifth, and sixth storage tanks.

15. A process for acidically treating and anodizing a metallic part
comprising:

providing a process tank capable of receiving at least one part;

providing at least one part to the process tank;

providing an alkaline solution into the process tank from an
alkaline solution storage tank;

removing the alkaline solution from the process tank into a first
transition tank;

providing a deoxidizing solution into the process tank from a
deoxidizing solution storage tank;

removing the deoxidizing solution from the process tank into a
transition tank;

providing an anodizing solution into the process tank from an
anodizing solution storage tank;

removing the anodizing solution from the process tank into a
transition tank;

providing a dichromate sealing solution into the process tank from
a sealing solution storage tank; and

removing the sealing solution from the process tank into a
transition tank.